



Erratum: The dynamics of cavity clusters in ultrasonic (vibratory) cavitation erosion [J. Appl. Phys. 51, 4651 (1980)]

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Erratum: The dynamics of cavity clusters in ultrasonic (vibratory) cavitation erosion [J. Appl. Phys. 51, 4651 (1980)]

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Equations (16), (17a), and (17b) should read

$$(\ddot{R} + \dot{R}^2)\pi\delta \ln \frac{1+2\delta}{2\delta} - \beta \dot{R}^2 \left(\frac{R}{r_c}\right)^2 \left(\frac{1}{2} - 2\delta\right) = -\frac{P_\infty - P_c}{\rho\beta}, \quad (16)$$

$$(\ddot{R} + \dot{R}^2) \left(\ln \frac{r_c}{R} + \pi\delta \ln \frac{1+2\delta}{2\delta} \right) - \dot{R}^2 \left\{ 1 - \beta \left[\frac{1}{2} + 2\delta \left(\frac{R}{r_c}\right)^2 \right] \right\} = \frac{-P_\infty}{\rho\beta}, \quad (17a)$$

$$(\ddot{R}^* + \dot{R}^{*2}) \left(\ln \frac{r_c^*}{R^*} + \pi\delta \ln \frac{1+2\delta}{2\delta} \right) - \dot{R}^{*2} \left\{ 1 - \beta \left[\frac{1}{2} + 2\delta \left(\frac{R^*}{r_c^*}\right)^2 \right] \right\} = -1. \quad (17b)$$

The error has primarily affected the initial part of the cylindrical collapse. The corrected Figs. 4 and 6 are shown. Page 4656, line 18, first column: "30 μ s" should be "40 μ s".

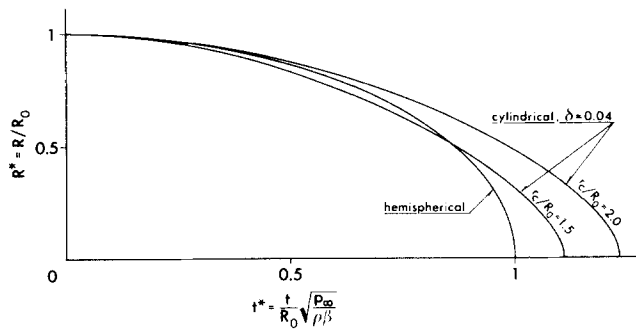


FIG. 4. The cavity cluster radius R during collapse as a function of time (in nondimensional form) for a hemispherical cluster and for two cases of a cylindrical cluster ($\beta \ll 1$ in all the cases).

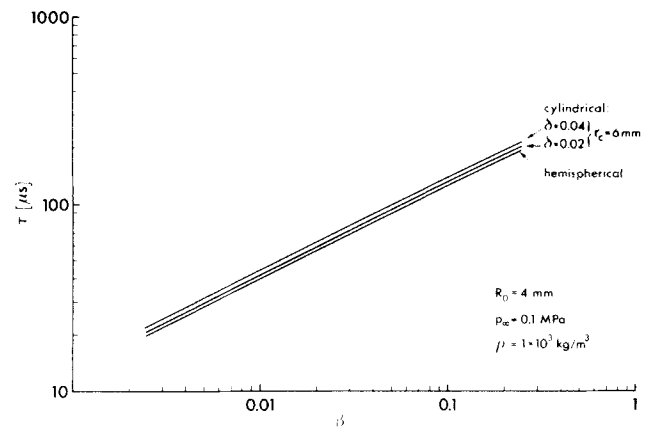


FIG. 6. The total collapse time τ as a function of the volume fraction β of cavitites for a hemispherical cluster and for two cases of a cylindrical cluster.